

IN THE CLAIMS

1. (currently amended) An osteosynthetic aid for tubular bones, comprising a locking nail which has a longitudinally extending shank with first and second ends and, ~~has~~ defining an outer bone contacting surface at least one cross-bore extending along an axis transverse to a longitudinal axis of the shank and a locking screw having a head for extending through said cross-bore and a biasing sleeve which extends adjacent the locking screw along the transverse axis and resiliently axially deforms in the direction along the transverse axis between the head of the locking screw and an outer shank surface surrounding the cross-bore in the locking nail shank wherein the sleeve has a radial flange at a first end against which the head of the locking screw comes to bear and the sleeve has a second end opposite the first end which bears against the outer shank bone contacting surface of the locking nail shank and is held axially in position by engagement with the nail shank outer surface surrounding the bore wherein the locking screw has a threaded portion which interengages with a thread of a cross-bore.

Claims 2 and 3 (canceled)

4. (previously presented) An osteosynthetic aid for tubular bones, comprising a locking nail which has a longitudinally ~~extending~~ shank with first and second ends and, has at least one cross-bore extending along an axis transverse to a longitudinal axis of the shank and a locking screw having a head for extending through said cross-bore and a biasing sleeve which extends adjacent the locking screw along the transverse axis and resiliently deforms in the direction along the transverse axis between the head of the locking screw and an outer shank surface surrounding the cross-bore in the locking nail shank wherein the locking screw is a tibial bolt which has

a first head at one end and a second head at an opposite end onto which the tibial nut is adapted to be screwed and a first biasing sleeve is disposed between the head of the tibial bolt and the nail shank and a second biasing sleeve is disposed between the nail shank and the tibial nut.

Claims 5-10 (canceled)

11. (currently amended) An apparatus for fixing a shank of an implant for a long bone in a direction transverse to an axis of the long bone, comprising:

a bone screw having a first portion including an end with a head and a leading second portion for insertion through a bore in an implant shank the bore extending along an axis transverse to a longitudinal axis of the implant shank;

a first biasing element having a deformable wall surrounding a central opening for receiving the screw second portion, said screw head engaging a first end of said biasing element, an outer surface of an implant shank portion surrounding the bore in said implant shank engaging a second end of said biasing element, the biasing element resiliently deformable along the transverse axis wherein the biasing element is a sleeve having a series of axially spaced circumferentially extending slots which are circumferentially offset from one another wherein the circumferential slots are perpendicular to the transverse axis and extend around the transverse axis through an angle of more than 180° and are axially spaced along a length of the transverse axis and wherein adjacent slots are offset by about 90° from one another.

Claims 12-15 (canceled)

16. (currently amended) An apparatus for fixing a shank of an implant for a long bone in a direction transverse to an axis of the long bone, comprising:

a screw having a first portion including an end with a first head and a leading second portion for insertion through a bore in an implant shank the bore extending along an axis transverse to a longitudinal axis of the implant shank;

a first biasing element having a deformable wall surrounding a central opening for receiving the screw second portion, said screw head engaging a first end of said biasing element, an outer surface of the shank surrounding the bore in said implant shank engaging a leading second end of said biasing element, the biasing element resiliently deformable along the transverse axis wherein said screw second portion is releasably coupled to said screw first portion, said screw second portion having an end opposite said end of said screw first portion having the screw first head, said end of the screw second portion including a second head or nut, the apparatus further including a second biasing element resiliently deformable along the transverse axis having a first end for engaging the second head or nut of the screw second portion and a second end opposite the first end of the second bearing element engaging an outer surface of the nail shank.

Claim 17 (canceled)

18. (previously presented) The apparatus as set forth in claim 16 wherein the biasing element is a sleeve having a series of axially spaced circumferentially extending slots which are circumferentially offset from one another.

19. (original) The apparatus as set forth in claim 18 wherein end portions of the circumferential slots overlap one another.

20. (original) The apparatus as set forth in claim 19 wherein the circumferential slots extend through an angle of more than 180°.

21. (original) The apparatus as set forth in claim 20 wherein adjacent slots are offset by about 90° from one another.

22. (previously presented) A method for fixing an implant shank in a long bone, comprising:

inserting a shank into the long bone, the shank having an opening therein extending along an axis transverse to an axis of a long bone,;

aligning a biasing sleeve having deformable walls extending between first and second ends thereof, the walls surrounding a central bore therein, with the transverse opening in the shank the biasing sleeve second end engaging an outer surface of the shank surrounding the transverse opening;

inserting a bone screw having a first portion including an end with a head and a threaded second portion through said biasing sleeve and into said transverse opening in said shank;

compressing said biasing sleeve by deforming the walls thereof in the direction of the transverse axis by tightening said bone screw so that the head thereof engages the first end of the biasing sleeve and the second end of said sleeve engages a first side surface of said shank wherein said compressing includes inserting said threaded screw second portion into a threaded nut aligned with said transverse shank opening on a second side of said shank opposite said first side.

Claims 23 and 24 (canceled)

25. (previously presented) A method for fixing an implant shank in a long bone, the shank having an opening therein extending along an axis transverse to an axis of a long bone, comprising:

inserting said shank into the long bone;

aligning a biasing sleeve having deformable walls extending between first and second ends thereof surrounding a central bore therein with the transverse opening in the shank;

inserting a bone screw having a first portion including an end with a head and a threaded second portion through said biasing sleeve and into said transverse opening in the shank;

compressing the biasing sleeve by deforming the walls thereof by tightening said bone screw so that the head thereof engages the first end of the biasing sleeve and the second end of said sleeve engages a first side of said shank, wherein said compressing includes inserting said threaded screw second portion into a threaded nut aligned with said transverse shank opening on a second side of said shank opposite said first side, further comprising inserting a second biasing sleeve between said nut and said second side of said shank and compressing said second biasing sleeve by tightening said bone screw.

26. (previously presented) An apparatus for fixing a shank of an implant for a long bone in a direction transverse to an axis of the long bone, comprising:

a screw having a first portion including an end with a head and a second portion for insertion through a bore in said shank;

a first biasing element having a deformable wall surrounding a central opening for receiving the screw first portion, said first screw head portion engaging a first end of said biasing element, wherein a nail shank portion engages a second end of said biasing element, said screw second portion is releasably coupled to said screw first portion, said screw second portion having an end opposite said end of said screw first portion, said second screw portion end including a head, further including a second biasing element having a first end for engaging the head of the second screw portion and an end engaging a nail shank portion.

Claims 27-30 (canceled)